DEPARTMENT of ENVIRONMENTAL SERVICES Water Division - Watershed Management Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: TOLMAN POND	Lake Area (ha):	15.50
Town: NELSON	Maximum depth (m):	3.9
County: Cheshire	Mean depth (m):	2.4
River Basin: Merrimack	Volume (m³):	364000
Latitude: 42°58'28" N	Relative depth:	0.9
Longitude: 72°06'27" W	Shore configuration:	1.15
Elevation (ft): 1450	Areal water load (m/yr)	: 4.45
Shore length (m): 1600	Flushing rate (yr ⁻¹):	1.90
Watershed area (ha): 120.6	P retention coeff.:	0.68
<pre>% watershed ponded: 0.0</pre>	Lake type:	natural

BIOLOGICAL:	25 February 2003	7 August 2002
DOM. PHYTOPLANKTON (% TOTAL) #1	ASTERIONELLA 50%	ASTERIONELLA 20%
#2	TABELLARIA 25%	TABELLARIA 20%
#3		MICROCYSTIS 15%
PHYTOPLANKTON ABUNDANCE (units/mL)		
CHLOROPHYLL-A (µg/L)		2.20
DOM. ZOOPLANKTON (% TOTAL) #1	NAUPLIUS LARVA 34%	CLADOCERAN SPP. 31%
#2	CALANOID COPEPOD 30%	CALANOID COPEPOD 28%
#3		NAUPLIUS LARVA 17%
ROTIFERS/LITER	30	<1
MICROCRUSTACEA/LITER	114	474
ZOOPLANKTON ABUNDANCE (#/L)	161	553
VASCULAR PLANT ABUNDANCE		Scattered
SECCHI DISK TRANSPARENCY (m)		2.7
BOTTOM DISSOLVED OXYGEN (mg/L)	5.4	7.9
BACTERIA (E. coli, #/100 ml) #1		1
#2		< 1
#3		

SUMMER THERMAL STRATIFICATION:

not stratified

Depth of thermocline (m): None Hypolimnion volume (m³): None Anoxic volume (m³): None

CHEMICAL:	Lake: TOLMAN POND Town: NELSON 25 February 2003 7 August 2002				
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DEPTH (m)	1.5		1.0		3.0
pH (units)	6.0		6.4		6.8
A.N.C. (Alkalinity)	5.3		3.3		3.6
NITRATE NITROGEN	< 0.05		< 0.05	***	< 0.05
TOTAL KJELDAHL NITROGEN	0.40		0.40		0.30
TOTAL PHOSPHORUS	0.011		0.015		0.015
CONDUCTIVITY (µmhos/cm)	40.3		33.1		32.7
APPARENT COLOR (cpu)	13		13		13
MAGNESIUM			0.83		
CALCIUM			1.5	***	
SODIUM			3.2		
POTASSIUM			0.60		
CHLORIDE	4		4		3
SULFATE	5		4		4
TN : TP	36		27		20
CALCITE SATURATION INDEX	,		4.2		

All results in mg/L unless indicated otherwise

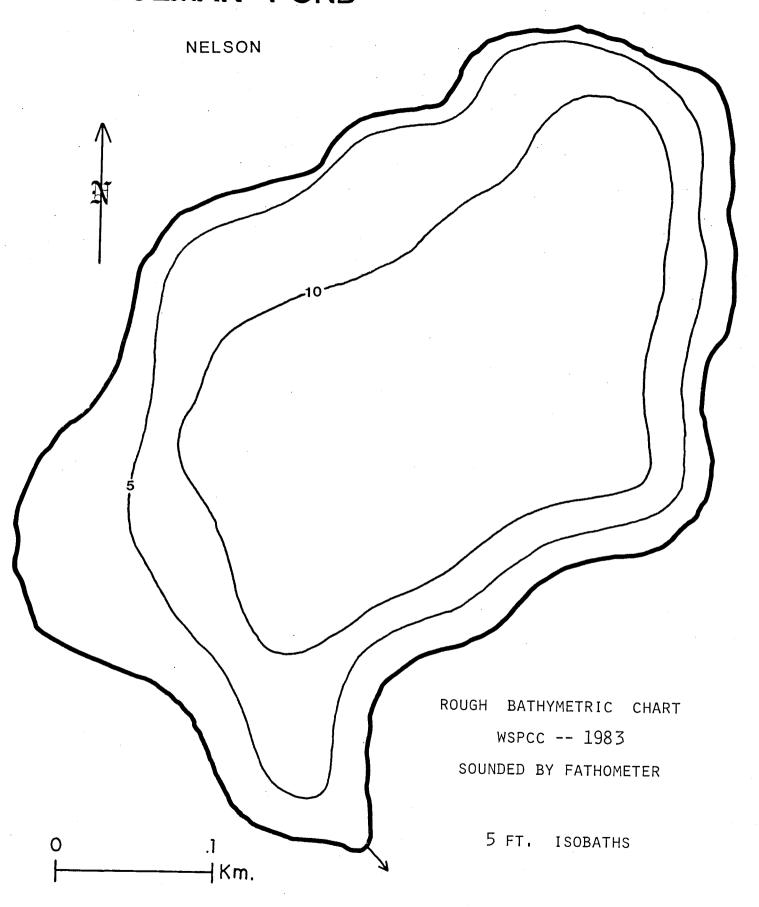
TROPHIC CLASSIFICATION: 2002

D.O.	s.D.	PLANT	CHL	TOTAL	CLASS
**	3	1	0	4	Oligo.

COMMENTS:

- 1. No motor boats allowed.
- 2. Previously surveyed in 1983 and a participant in VLAP since 1998.
- 3. Not re-sounded in 2002. Enclosed bathymetric map is from the 1983 survey.
- 4. No public boat launch site.
- 5. Most of the lake shore is undeveloped; approximately three year-round homes across the road and a few summer camps; campsites were located along the southwest shore.

TOLMAN POND



FIELD DATA SHEET

LAKE: TOLMAN POND TOWN: NELSON

DATE: 08/07/2002 WEATHER: Warm & breezy; few clouds

	EPTH (M)	TEMP (°C)	*DISSOLVED OXYGEN	OXYGEN SATURATION
·	0.1	24.3	7.8	93 %
	1.0	24.3	7.8	93 %
	2.0	24.2	7.8	93 %
	2.5	24.1	7.9	94 %
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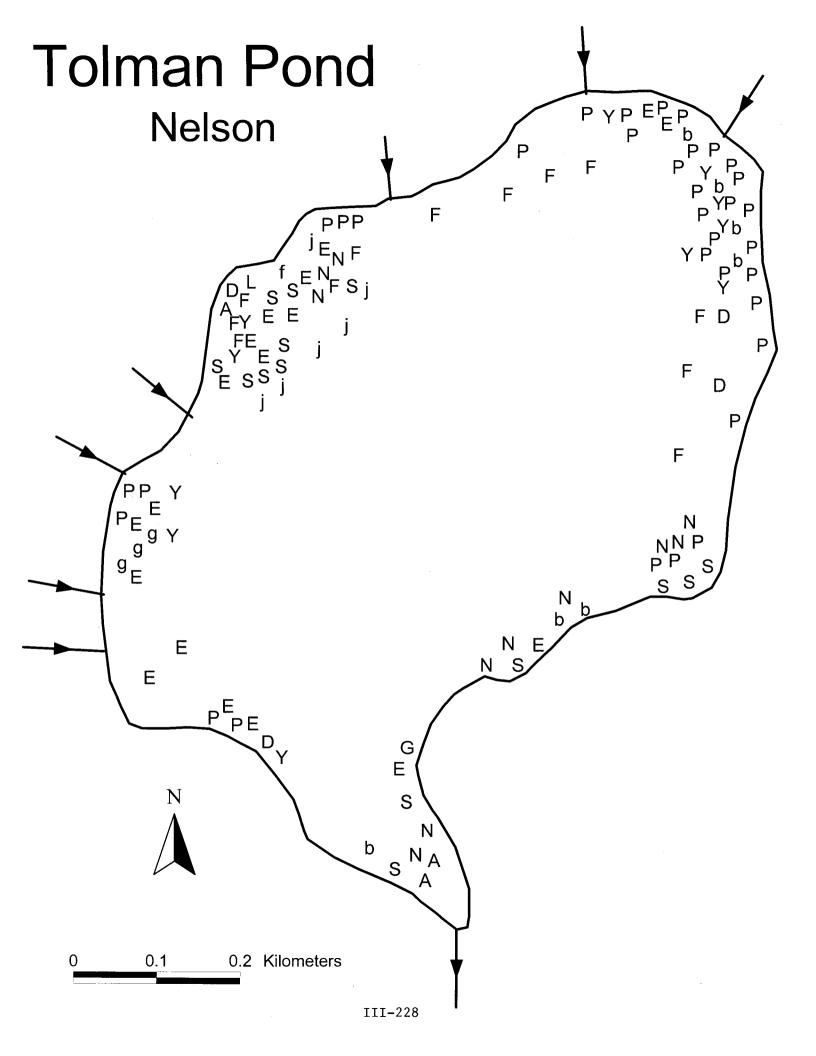
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SECCHI DISK (m): 2.7 COMMENTS:

BOTTOM DEPTH (m): 3.2

TIME: 1216

*Dissolved oxygen values are in mg/L



AQUATIC PLANT SURVEY

LAK	E: TOLMAN POND	rown: nelson	DATE: 08/07/2002			
Key	Key PLANT NAME ABUNDANCE					
кей	GENERIC	COMMON	ABONDANCE			
P.	Pontederia cordata	Pickerelweed	Scattered			
Е	Eriocaulon septangulare	Pipewort	Scattered			
Y	Nuphar	Yellow water lily	Sparse			
F	Nymphoides cordatum	Floating heart	Sparse			
j	Najas	Bushy pondweed	Scattered			
f	Chlorophyceae	Filamentous green algae	Scattered			
L	Lobelia dortmanna	Water lobelia	Scattered			
N	Nymphaea	Pink water lily	Sparse			
A	Sagittaria	Arrowhead	Sparse			
S	Sparganium	Bur reed	Sparse			
D	Decodon verticillatus	Swamp loosestrife	Sparse			
b	Scirpus	Bulrush	Sparse			
G	Gramineae	Grass family	Scattered			
g	Spongilla	Freshwater sponge	Sparse			

GENERAL OBSERVATIONS:

- 1. A large area of freshwater sponges was observed near the outlet.
- 2. Hundreds of large snails were observed over the bottom of the pond; mussels were also present.
- 3. Pink water lilies with 12 inch diameter lily pads were present; these may have been an introduced (not a native) species.

OVERALL ABUNDANCE: Scattered